

CLAIMS

What is claimed is:

1. An automotive vehicle roof system for a vehicle, the automotive vehicle roof system comprising:

a roof panel slidably mountable to the vehicle, the roof panel being slidable from a closed position to an opened position;

a back window slidably mountable to the vehicle, the back window being movable from a closed and functional position to a stowed position; and

a mechanism operably connectable between the back window and the vehicle, the mechanism being capable of pivoting a top portion of the back window outwardly and subsequently rotating the back window into the stowed position.

2. The automotive vehicle roof system according to Claim 1 wherein the mechanism comprises:

at least a pair of pivot links operably connectable between the back window and the vehicle, the pivot links cooperating with the back window and the vehicle to define at least a four bar linkage.

3. The automotive vehicle roof system according to Claim 2 wherein the mechanism further comprises:

a retaining member positionable in a locked position engagable with a pin member extending from the back window and an unlocked position;

an actuation rod operably coupled at a first end to the retaining member for actuating the retaining member between the locked position and the unlocked position; and

a main drive block at least partly coupled to the actuation rod so as to actuate the actuation rod.

4. The automotive vehicle roof system according to Claim 1 wherein the back window must be in the stowed position when the roof panel is in the opened position.

5. An automotive vehicle roof system comprising:
- an elongated track;
 - a back window having a first end and an opposing second end;
 - a first retaining member mounted to the back window generally near the first end of the back window;
 - a mechanism having at least a four-bar linkage slidably coupling the back window to the elongated track to permit the back window to be moved between a closed and functional position and an opened position;
 - a second retaining member selectively engaging the first retaining member in a locked position and releasing the first retaining member in an unlocked position; and
 - a rod extending between the mechanism and the second retaining member to actuate the second retaining member between the locked position and the unlocked position in response to movement of the mechanism.

6. The automotive vehicle roof system according to Claim 5 wherein the first retaining member is a pin.

7. The automotive vehicle roof system according to Claim 5 wherein the second retaining member is a bellcrank hook.

8. The automotive vehicle roof system according to Claim 5 wherein the mechanism further comprises:

a carrier member slidably disposed in the elongated track;

a first link pivotably coupled between the carrier member and the back window;

a second link pivotably coupled between the carrier member and the back window; and

wherein the carrier member, the first link, the second link, and the back window cooperate to define the at least four bar linkage.

9. The automotive vehicle roof system according to Claim 8 wherein the mechanism further comprises:

a bellcrank pivotally connectable to the automotive vehicle, the bellcrank operably coupled on a first end to the rod and cammingly engaging the carrier member on a second end to actuate the rod in response to movement of the carrier member.

10. An automotive vehicle roof system for a vehicle, the automotive vehicle roof system comprising:

a roof panel slidably mountable to the vehicle, the roof panel being slidable from a closed position to an opened position;

a back window slidably mountable to the vehicle, the back window being movable from a closed and functional position to a stowed position; and

a mechanism operably connectable between the back window and the vehicle, the mechanism being capable of pivoting a top portion of the back window outwardly and subsequently rotating the back window into the stowed position;

wherein the back window must be in the stowed position when the roof panel is in the opened position.

11. The automotive vehicle roof system according to Claim 10 wherein the mechanism comprises:

at least a pair of pivot links operably connectable between the back window and the vehicle, the pivot links cooperating with the back window and the vehicle to define at least a four bar linkage.

12. The automotive vehicle roof system according to Claim 10 further comprising:

an elongated track;

the back window having a first end and an opposing second end;

a first retaining member mounted to the back window generally near the first end of the back window;

the mechanism having at least a four-bar linkage slidably coupling the back window to the elongated track to permit the back window to be moved between the closed and functional position and the opened position;

a second retaining member selectively engaging the first retaining member in a locked position and releasing the first retaining member in an unlocked position; and

a rod extending between the mechanism and the second retaining member to actuate the second retaining member between the locked position and the unlocked position in response to movement of the mechanism.

13. The automotive vehicle roof system according to Claim 12 wherein the first retaining member is a pin.

14. The automotive vehicle roof system according to Claim 12 wherein the second retaining member is a bellcrank hook.

15. The automotive vehicle roof system according to Claim 12 wherein the mechanism further comprises:

a carrier member slidably disposed in the elongated track;

a first link pivotably coupled between the carrier member and the back window; and

a second link pivotably coupled between the carrier member and the back window.

16. The automotive vehicle roof system according to Claim 12 wherein the mechanism further comprises:

a bellcrank pivotally connectable to the automotive vehicle, the bellcrank operably coupled on a first end to the rod and cammingly engaging the carrier member on a second end to actuate the rod in response to movement of the carrier member.

17. The automotive vehicle roof system of Claim 10 further comprising a double-bulb seal extending along a header and a pair of side rails, the seal operably channeling water from the roof panel and the back window.